GOVERNMENT OF INDIA
WATER RESOURCES, RIVER DEVELOPMENT AND GANAGA REJUVENATION
LOK SABHA

UNSTARRED QUESTION NO:402
ANSWERED ON:25.02.2016
Contamination of Groundwater
Gawali (Patil) Ms. Bhavana;Kharge Shri Mallikarjun ;Tumane Shri Krupal Balaji

Will the Minister of WATER RESOURCES, RIVER DEVELOPMENT AND GANAGA REJUVENATION be pleased to state:

(a) the norms fixed for fluoride and other chemical contents in supply of water for various purposes including drinking water in the country;

(b) whether the Government is aware that groundwater in various parts of the country including Punjab is contaminated and contain dangerous chemicals, metals including other arsenic contents thereby leading to harmful effects on human beings and affecting drinking water supply;

(c) if so, the details thereof by indicating the present status of such contamination including fluoride contents in the groundwater in comparison to the last three years, State/location-wise; and

(d) the steps taken/proposed to be taken by the Government to improve the situation along with the details of the schemes chalked out and funds released/spent for the purpose, if any?

Answer

THE MINISTER OF STATE FOR WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION
(PROF.SANWAR LAL JAT)

(a) The norms fixed for fluoride and other chemical contents in supply of water for various purposes including drinking water are given in Annexure I.

(b)&(c) Ground water quality data generated by Central Ground Water Board (CGWB) indicates that ground water in various parts in Ten (10) States for Arsenic, Twenty (20) States for Fluoride, Twenty One (21) States for Nitrate, Twenty Six (26) States and Union Territories for Iron, and Fifteen (15) States for Heavy Metals such as Lead, Chromium and Cadmium have concentration higher than the norms, on the date of analysis, prescribed by the Bureau of Indian Standards. State/UT-wise list / parts of the districts where ground water was found contaminated is given at Annexure-II. Status of contamination of ground water for last three years (2012-15) is given at Annexure-III. Further, Department of Water Supply & Sanitation (DWSS), Government of Punjab has informed that the till date there are 2697 sources where ground water quality is affected by various contaminants like Uranium, Arsenic and Fluoride etc beyond prescribed norms.

(d) Government of India through Ministry of Drinking Water & Sanitation (MoDWS) supplements the efforts of the States by providing them technical and financial support to the schemes being developed for drinking water supply in the States. MoDWS has informed that 20% of the allocated funds under National Rural Drinking Water Programme (NRDWP) are earmarked for water quality problems. Further, the States may also utilize up to 67% of funds released under NRDWP for improving water quality of ground and surface water. Ministry of Drinking Water and Sanitation have informed that as a long term measure, all the State Governments have been advised to provide piped water supply from alternate safe sources to all water quality affected habitations with priority to cover Fluoride and Arsenic affected habitations. Since these mega schemes take a long gestation period for commissioning, the States have advised to set up community water treatment plants in all the remaining Arsenic, Fluoride, Heavy Metals, toxic elements, pesticides and fertilizers affected habitations as a short term measure and provide 8-10 lpcd (litre per capita per day) of safe drinking water on or before March, 2017.

DWSS, Government of Punjab has informed that they have taken various steps which include installation of 1824 RO plants; in additionÂ¸ NITI Aayog, has allocated Rs. 39.35 crore to Punjab for covering all the arsenic and fluoride affected areas in 2016 with at least 8 lpcd water.
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ANNEXURE - I
Annexure referred in reply to Lok Sabha Unstarred Question No. 402 to be answered on 25.02.2016 regarding "Contamination of Groundwater"

Drinking Water Standards of BIS (IS: 10500: 2012)
S.No Parameters Desirable limits mg/l Permissible limits mg/l

Essential Characteristics

1 Colour Hazen unit 5 15

2 Odour agreeable agreeable
3 taste agreeable agreeable
4 Turbidity (NTU)* 1 5
5 pH 6.5-8.5 No relaxation
6 Total Hardness, $CaCO_3$ 200 600
7 Iron (Fe) 0.3 No relaxation
8 Chloride (Cl) 250 1000
9 Residual Free Chlorine 0.2 1
10 Fluoride (F) 1.0 1.5
Desirable Characteristics
11 Dissolved Solids 500 2000
12 Calcium (Ca) 75 200
13 Magnesium (Mg) 30 100
14 Copper (Cu) 0.05 1.5
15 Manganese (Mn) 0.1 0.3
16 Sulphate (SO_4) 200 400
17 Nitrate (NO_3) 45 No relaxation
18 Phenolic compounds 0.001 0.002
19 Mercury (Hg) 0.001 No relaxation
20 Cadmium (Cd) 0.003 No relaxation
21 Selenium (Se) 0.01 No relaxation
22 Arsenic (As) 0.01 0.05
23 Cyanide (CN) 0.05 No relaxation
24 Lead (Pb) 0.01 No relaxation
25 Zinc (Zn) 5.0 15
26 Total Chromium 0.05 No relaxation
27 Alkalinity 200 600
28 Aluminum (Al) 0.03 0.2
29 Boron (B) 0.5 1

* NTU = Nephelometric Turbidity Unit

Safe limits for Electrical Conductivity for Irrigation Water

S.No. Nature of soil Crop growth Upper permissible
safe limit of Electrical
Conductivity in water
Âµmhos/cm at 25Â°C
1 Deep black soil and alluvial Semi-tolerant 1500
soils having clay content
more than 30% soils that are
Tolerant 2000
fairly to moderately well

drained.
2 Heavy textured soils having Semi-tolerant 2000
clay contents of 20-30% soils
that are well drained
internally and have good
Tolerant 4000
surface drainage system.

3 Medium textured soils having Semi-tolerant 4000
clay 10-20% internally very
well drained and having good
surface drainage system. Tolerant 6000

4 Light textured soils having Semi-tolerant 6000
clay less than 10% soil that
have excellent internally
Tolerant 8000
and surface drainage system.

Tolerance Limits for Industrial Effluence (IS : 2490, Part-I-1981)

Maximum tolerance limits for industrial effluents discharged

S. No.	Characteristic (mg/l)	Into inland surface water	Into On land for public irrigation	Into Marine/Coastal Area	
1	Colour and Odour	Absent	-	Absent	Absent
2	Suspended solids	100	600	200	a)For Process waste water 100 b)For cooling water effluent 10 percent above total suspended matter of effluent
3	Particle size of suspended solids	Shall pass 850 micron IS Sieve max 856 microns	-	-	a)Floatable solids, max. 3 mm b)Settleable solids
4	Dissolved solids (inorganic)	2100	2100	2100	
5	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6	Temperature Â°C	Shall not exceed 40 in any section of the stream within 15 meters down stream from the effluent outlet	45 at the point of discharge	-	-
7	Oil and grease	10	20	10	20
8	Total residual chlorine	1.0	-	-	1.0
9	Ammonical nitrogen (as N)	50	50	-	50
10	Total kjeldahl nitrogen (as N)	100	-	-	100
11	Free ammonia (as NH3)	5.0	-	-	5.0
12	Biochemical Oxygen Demand (5 days at 20Â°C)	30	350	100	100
13	Chemical Oxygen Demand	250	-	-	250
14	Arsenic (as As)	0.2	0.2	0.2	0.2
15	Mercury (as Hg)	0.01	0.01	-	0.01
16	Lead (as Pb)	0.1	1.0	-	2.0
17	Cadmium (as Cd)	2	1.0	-	2.0
18	Hexavelant Chromium (as Cr+6)	0.1	2.0	-	1.0
19	Total Chromium (as Cr)	2.0	2.0	-	2.0
20	Copper (as Cu)	3.0	3.0	-	30
21	Zinc (as Zn)	5	15	-	15
22	Selenium (as Se)	0.05	0.05	-	0.05
23	Nickel (as Ni)	3.0	3.0	-	-
24	Boron (as B)	2.0	2.0	2.0	-
25	Percent sodium	-	60	60	-

Annexure-II

Annexure referred in reply to Lok Sabha Unstarred Question No. 402 to be answered on 25.02.2016 regarding "Contamination of

Groundwater"
States Wise Details of Affected Districts with Ground Water Contamination by different Chemical Constituents

S. No.	State/UT	Fluoride (above 1.5 mg/l) (Name of the Districts)	Nitrate (above 45 mg/l) (Name of the Districts)	Arsenic (above 0.05 mg/l) (Name of the Districts)	Iron (above 0.05 mg/l) (Name of the Districts)	Heavy metals: Lead (above 0.01 mg/l) Cadmium (above 0.003 mg/l) Chromium (above 0.05 mg/l) (Name of the Districts)
1	Andhra Pradesh	Visa khapatnam, West-Godavari Krishna, Guntur, Prakasam, Nellore,Chittoor Kadapa, Kurnool, Ananthapur, Sirkakulam Srikakulam, Vizianagaram,	Visa khapatnam, East-Godavari, West-Godavari Krishna, Guntur, Prakasam, Nellore, Chittoor Kadapa, Kurnool, Ananthapur, Vishakhapatnam Krishna, Guntur, Nellore, Kurnool, Chittoor, Cuddapah,			
2	Telangana	Adilabad, Karimnagar, Khammam, Warangal, Mahabubnagar, Medak, Nalgonda, Rangareddy, Nizamabad Adilabad, Nizamabad, Karimnagar, Warangal Khammam, Hyderabad, Mahabubnagar, Medak, Nalgonda, Rangareddy,	Adilabad, Hyderabad, Karimnagar, Mahabubnagar, Medak, Nalgonda, Nizamabad, Ranga Reddy	Lead : Rangareddy, Nalgonda Cadmium: Rangareddy Chromium: Rangareddy		
3	Assam	Goalpara, Kamrup, KarbiAnglong, Naugaon, Golaghat, Karimganj Sivsagar, Jorhat, Golaghat, Sonitpur, Lakhimpur, Dhemaji, Hailakandi, Karimganj, Cachar, Barpeta, Bongaigaon, Goalpara, Dhubri, Nalbari, Nagaon, Morigaon, Kamrup,Darrang&Baksha Cachar, Darrang, Dhemaji, Dhubri, Goalpara, Golaghat, Hailakandi, Jorhat, Kamrup, KarbiAnglong, Karimganj, Kokrajhar, Lakhimpur, Morigaon, Nagaon, Nalbari, Sibsagar, Sonitpur				
4	Arunachal Pradesh	Changlang , East Siang, Lohit, Papumpare				
5	Bihar	Aurangabad, Banka, Bhagalpur, Gaya, Jamui, Kaimur(Bhabua), Munger, Nawada, Rohtas, Jahanabd, Lakhisarai, Sheikhpura, Nalanda Aurangabad, Banka, Bhagalpur, Bhojpur, Darbhanga, Kaimur(Bhabua), Patna, Rohtas, Saran, Siwan Begusarai, Bhagalpur, Bhojpur, Buxar, Darbhanga, Katihar, Khagaria, Kishanganj, Lakhisarai, Munger, Patna, Purnea, Samastipur, Saran, Vaishali Aurangabad, Begusarai, Bhojpur, Buxar, East Champaran, Gopalganj, Katihar, Khagaria, Kishanganj, Lakhiserai, Madhepura, Muzaffarpur, Nawada, Rohtas, Saharsa, Samastipur, Siwan, Supaul, West Champaran				
6	Chhattisgarh	Bastar, Balod , Balrampur, Bemetra, Bijapur , Durg, Kanker, Kondagaon, Korba, Koriya, Raigarh, Surajpur, Surguja Bastar, Bilaspur, Dantewada, Dhamtari, Jashpur, Kanker, Kawardha, Korba, Mahasamund, Raigarh, Raipur, Rajnandgaon Rajnandgaon Bastar, Dantewada, Kanker, Koriya,		Lead: Korba Cadmium: Korba Chromium:Korba		
7	Delhi	East Delhi, New Delhi, North West Delhi, South Delhi, South West Delhi, North Delhi, West Delhi	East Delhi, Central Delhi, New Delhi, North Delhi, North West Delhi, South Delhi, South West Delhi, West Delhi	Lead : Along Najafgarh drain in North, West and South-west districts Cadmium : Southwest Chromium : Northwest, South, New Delhi, East		
8	Goa	North Goa , South Goa				
9	Gujarat	Ahmedabad, Amreli, Anand, Banaskantha, Bharuch, Bhavnagar, Dahod, Gandhinagar, Jamnagar, Junagadh, Kachchh, Mehesana, Panchmahals, Patan, Porbandar, Rajkot, Sabarkantha, Surendranagar, Vadodara	Ahmedabad, Amreli, Anand, Banaskantha, Bharuch, Bhavnagar, Dahod, Jamnagar, Junagadh, Kachchh, Kheda, Mehesana, Narmada, Navsari, Panchmahals, Patan, Porbandar, Rajkot, Sabarkantha, Surat, Surendranagar, Vadodara Ahmedabad, Banaskantha, Bhavnagar, Kachchh, Mehesana,Narmada,			
10	Haryana	Ambali, Bhiwani, Fatehabad, Faridabad, Gurgaon, Hissar, Jhajjar, Jind, Kaithal, Karnal, Kurukshetra, Mahendergarh, Panchkula, Palwal,Panipat, Rewari, Rohtak, Sirsa, Sonepat, Yamuna Nagar	Ambala, Bhiwani, Faridabad, Fatehabad, Gurgaon, Hissar, Jhajjar, Jind, Kaithal, Karnal, Kurukshetra, Mahendargarh, Panchkula, Panipat, Rewari, Rohtak, Sirsa, Sonipat, Yamuna Nagar Ambala, Bhiwani, Faridabad, Fatehabad, Hissar, Jhajjar, Jind, Karnal, Panipat, Rohtak, Sirsa, Sonepat, Yamunanagar. Ambala, Bhiwani, Faridabad, Fatehabad, Gurgaon, Hissar, Jhajjar, Jind, Kaithal, Karnal, Kurukshetra, Mahendargarh, Panipat, Rohtak, Sirsa, Sonipat, Yamuna Nagar	Lead: Ambala, Bhiwani, Faridabad, Fatehabad, Gurgaon, Hissar, Jhajjar, Jind, Kaithal, Karnal, Mahendragarh, Panchkula, Panipat, Rewari, Rohtak, Sirsa, Sonepat. Cadmium: Bhiwani, Gurgaon, Jhajjar, Jind, Kaithal, Rewari, Rohtak. Chromium: Fatehabad		
11	Himachal Pradesh	Una, Solan, Hamirpur, Kangra, Mandi, Kullu				

12 Jammu & Kashmir Kupwara Jammu, Kathua, Anantnag, Kupwara Baramulla, Budgam, Kathua, Kupwara, Pulwama, Srinagar Lead: Jammu (Gangyal), Bari Brahma, Kathua
Cadmium: Kathua
13 Jharkhand Bokaro, Dhanbad, Garhwa,Giridih, Godda, Gumla, Koderma, Pakur Palamu, Ranchi, , Sahebganj, Khunti
Sahebganj Chatra, Deoghar, East Singhbhum, Giridih, Ranchi, West Singhbhum Lead: Jamshedpur

14 Karnataka Bagalkot, Bangalore(Rural), Bangalore(Urban), Belgaum, Bellary, Bidar, Bijapur, Chikaballapur Chamarajanagar, Chikmagalur, Chitradurga, Davanagere, Dharwad, Dakshina Kannada, Gadag, Gulburga, Hassan, Haveri, Kolar, Koppal, Mandya, Mysore, Raichur, Ramnagara , Shimoga, Tumkur, Yadgir, Uttara Kannada, Udupi
Bagalkot, , Bangalore, Belgaum, Bellary, Bidar, Bijapur, Chikmagalur, Chitradurga, Davanagere, Dharwad, Gadag, Gulburga, Hassan, Haveri, Kodagu, Kolar, Koppal, Mandya, Raichur. Shimoga, Udupi, Uttar Kannada Raichur and Yadgir district Bagalkot, Bangalore, Belgaum, Bellary, Bidar, Bijapur, Chikmagalur, Chitradurga, Dakshina Kannada, Davanagere, Gulburga, Hassan, Haveri, Kodagu, Kolar, Koppal, Mysore, Raichur, Shimoga, Tumkur, Udupi, Uttar Kannada
15 Kerala Palakkad, Alappuzha, Idukki, Ernakulum, Thiruvananthpuram
Alappuzha, Idukki, Kollam, Kottayam, Kozhikode, Malappuram, Palakkad, Pathanamthitta, Thiruvananthapuram, Thrissur, Wayanad Alappuzha, Ernakulam, Idukki, Kannur, Kasaragod, Kollam, Kottayam, Kozhikode, Malappuram, Palakkad, Pathanamthitta, Quilon, Thiruvananthapuram, Thrissur, Wayanad Lead: Ernakulam , Kollam
Chromium: Kollam
16 Madhya Pradesh Alirajpur, Balaghat, Barwani, Betul, Bhind, Bhopal,Chhatarpur, Chhindwara, Datia, Dewas, Dhar, Dindori, Guna, Gwalior, Harda, Jabalpur, Jhabua, Khargon, Mandla, Mandsaur, Morena, Narsinhpur, Neemuch, Panna, Raisen, Rajgarh, Ratlam, Sagar, Satna, Sehore, Seoni, Shahdol, Shajapur, Sheopur, Sidhi, Shivpuri, Singrauli, Uajjain, Vidisha

Alirajpur, Anuppur, Ashok Nagar, Balaghat, Barwani, Betul, Bhind, Bhopal, Burhanpur, Chhatarpur, Chhindwara, Damoh, Datia, Dewas, Dhar, , Dindori,Guna, Gwalior, Harda, Hoshangabad, Indore, Jabalpur, Jhabua, Khandwa, Khargon, Katni, Mandla, Mandsaur, Morena, Narsimhapur, Neemuch, Panna, Raisen, Rajgarh, Ratlam, Rewa, Sagar, Satna, Sehore, Seoni, Shahdol, Shajapur, Sheopur, Shivpuri, Sidhi, Singrauli, Tikamgarh, Ujjain, Umaria, Vidisha
Balaghat,Barwani, Betul, Bhind, Bhopal, Chhatarpur, Chhindwara, Damoh, Datia, Dewas, Dhar, Dindori, Guna, Gwalior, Hoshangabad, Indore, Jabalpur, Jhabua, Khandwa, Katni, Mandla, Mandsaur, Narsinghpur, Neemuch, Panna, Raisen, Rajgarh,Ratlam, Rewa, Sagar, Satna, Sehore, Seoni, Shahdol, Shajapur,Shivpuri, Sidhi,Tikamgarh, Ujjain, Umaria, Vidisha, East Nimar Lead: Balaghat, Barwani,Damoh, Datia, Dewas, Dhar, Dindori, Guna, Gwalior, Raisen, Rajgarh, Satna, Sehore, Shajapur, Shivpuri, Vidisha
17 Maharashtra Ahmednagar, Beed, Chandrapur, Bhandara, Dhule, Gadchiroli, Gondia, Jalna, Nagpur, Nanded, Ratnagiri, Sangli, Satara, Sindhudurg, Solapur, Wardha,Yavatmal
Ahmednagar, Akola, Amravati, Auragabad, Beed, Bhandara, Buldana, Chandrapur, Dhule, Gadchiroli, Gondia, Hingoli, Jalgaon, Jalna, Kolhapur, Latur, Mumbai, Nagpur, Nanded, Nandurbar, Nasik, Osmanabad, Parbhani, Pune, Sangli, Satara, Solapur, Wardha, Washim, Yavatmal Ahmednagar, Amravati, Beed, Buldana, Chandrapur, Dhule, Gadchiroli, Jalna, Kohlapur, Latur, Nandurbar, Nashik, Osmanabad, Parbhani, Ratnagiri, Satara, Thane, Wardha, Washim, Yavatmal Lead: Ahmed Nagar, Akola, Aurangabad, Beed, Buldana, Dhule, Gadchiroli, Jalna, Kolhapur, Latur, Nagpur, Nanded, Osamabad, Parbhani, Pune, Sangli, Wardha, Washim, Yavatmal
18 Manipur Bishnupur, Thoubal Bishnupur, Thoubal
19 Meghalaya East Garo Hills, East Khasi Hills, Jaintia Hills
20 Nagaland Dimapur
21 Odisha Angul, Balasore, Bhadrak,Bargarh Bolangir, Boudh, Cuttack, Deogarh Dhenkanal, Jajpur, Kandhamal ,Keonjhar, Khurda, Mayurbhanj, Nayagarh, Nawapara, Ganjam, Jagatsinghpur, Kalahandi, Koraput, Puri, Rayagada, Sambalpur, Sonepur, Sundargarh
Angul, Balasore, Bargarh, Bhadrak, Bolangir, Baudh, Cuttack, Deogarh, Dhenkanal, Gajapati, Ganjam, J.Singhpur, Jajpur, Jharsuguda, Kalahandi, Kendrapara, Keonjhar, Khurda, Koraput, Malkangiri, Mayurbhanj, Nawapada, Nayagarh, Phulbani, Puri, Sambalpur, Sundergarh, Sonpur Balasore, Bargarh, Bhadrak, Cuttack, Deogarh, J.Singhpur, Jajpur, Jharsuguda, Kalahandi, Kandmahal, Keonjhar, Kendrapara,Khurda, Koraput, Mayurbhanj, Nayagarh, Puri, Rayagada, Sambalpur, Sundergarh, Sonpur Chromium (Hexavalent) - Sukinda valley in Sukinda block of Jajpur District
22 Punjab Amritsar, Barnala, Bhatinda, Fazilka, Faridkot, Fatehgarh Sahib, Firozpur, Gurdaspur, Jalandhar, Ludhiana, Mansa, Moga, Muktsar, Pathankot, Patiala, Ropar, Sangrur, SAS Nagar (Mohali), Tarn-Taran
Amritsar, Barnala, Bhatinda, Faridkot, Fatehgarh Sahib, Firozpur, Gurdaspur, Hoshiarpur, Jalandhar, Kapurthala, Ludhiana, Mansa, Moga, Muktsar, NawanShahr, Patiala, Ropar, Rupnagar, Sangrur, Tarn-Taran Mansa, Amritsar, Gurdaspur, Hoshiarpur, Kapurthala, Ropar. Bhathinda, Faridkot, Fatehgarh Sahib, Firozpur, Gurdaspur, Hoshiarpur, Mansa, Rupnagar, Sangrur Lead: Amritsar, Bathinda, Ferozepur, Gurdaspur, Muktsar, Ropar
Cadmium: Fatehgarh Sahib, Ludhiana, Nawansahar, Patiala, Ropar, Sangrur, Sasnagar, Tarantaran
Chromium: Amritsar, Bathinda, Gurdaspur, Kapurthala, Mansa, Ropar, Barnala, Sangrur, Sasnagar, Tarantaran

23 Rajasthan Ajmer, Alwar, Banswara, Barmer, Bharatpur, Baran, Bhilwara, Bikaner, Bundi, Chittaurgarh, Churu, Dausa, Dhaulpur, Dungarpur, Ganganagar, Hanumangarh, Jaipur, Jaisalmer, Jalore, Jhalawar Jhunjhunu, Jodhpur, Karauli, Kota, Nagaur, Pali, Pratapgarh, Rajsamand, Sirohi, Sikar, Sawai Madhopur, Tonk, Udaipur
Ajmer, Alwar, Banswara, Baran, Barmer, Bundi,Bharatpur, Bhilwara, Bikaner, Chittaurgarh, Churu, Dausa, Dhaulpur, Dungarpur, Ganganagar, Hanumangarh, Jaipur, Jaisalmer, Jalore, Jhalawar, Jhunjhunu, Jodhpur, Karauli, Kota, Nagaur, Pali, Partapgarh, Rajasamand, Sirohi, Sikar, SwaiMadhopur, Tonk, Udaipur Ajmer, Alwar, Banswara, Baran, Barmer, Bharatpur, Bhilwara, Bikaner, Bundi, Chittaurgarh, Churu, Dausa, Dhaulpur, Dungarpur, Ganganagar, Hanumangarh, Jaipur, Jaisalmer,Jalore, Jhalawar, Jhunjhunu, Jodhpur, Karauli, Kota, Nagaur, Pali, Pratapgarh, Rajsamand, Sikar, SawaiMadhopur, Sirohi, Tonk, Udaipur Lead: Jhunjhunu Dist (Khetri Copper Deposit), Pali, Jaipur (Sambhar Lake, Sanganer)
24 Tamil Nadu Coimbatore, Dharmapuri, Dindigul, Erode, Karur, Kancheepuram, Krishnagiri, Namakkal, Madurai, Puddukotai, Ramanathanpuram, Salem, Sivagangai, Theni, Thiruvannamalai,
Tiruchirapally,
Thirunelveli, Tirupur Vellore, Chennai, Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kancheepuram, Kanyakumari, Karur,

Madurai, Namakkal, Nilgiris, Perambalor, Puddukotai, Ramanathanpuram, Salem, Sivagangai, Theni, Thiruvannamalai, Thanjavur, Tirunelveli, Thiruvallur, Trichy, Tuticorin, Vellore, Villupuram, Virudhunagar Namakkal, Salem Lead : Dindigul, Tiruvallur, Kancheepuram
Cadmium : Tiruvallur
Chromium: Cuddalore, Dindigul, Erode, Kanchipuram, Tiruvallur
25 Tripura Dhalai, North Tripura, South Tripura, West Tripura,
26 Uttar Pradesh Agra, Aligarh, Etah,Kashiram Nagar, Firozabad, Jaunpur, , Mahamaya Nagar, Mainpuri, Mathura, Mau, Sonbhadra, Varanasi and Unnao
Agra, Aligarh, Allahabad, Ambedkar Nagar, Auraiya, Azamgarh, Badaun, Baghpat, Balrampur, Banda, Barabanki, Bareilly, Basti, Bijnor, Bulandsahr, Chitrakoot, Etah, Fatehpur, Firozabad, GB Nagar, Ghaziabad, Ghazipur, Hamirpur, Hardoi, Hathras, Jaunpur, Jhansi, Kannauj, Kanpur Dehat, Lakhimpur, Mahoba, Mathura, Meerut, Mau, Moradabad, Muzaffarnagar, Mirzapur, Raebarelli, SantRavidas Nagar, Shajahanpur, Sitapur, Sonbhadra, Sultanpur, Shravasti, Siddarth Nagar, Unnao Bahraich, Balia, Balrampur, Bareilly, Basti, Bijnor, Chandauli, Ghazipur, Gonda, Gorakhpur, LakhimpurKheri, Meerut, Mirzapur, Muradabad, Rai Bareilly, SantKabir Nagar, Shajahanpur, Siddarthnagar, SantRavidasNagar, Unnao

Azamgarh, Ballia, Balrampur, Etawah, Fatehpur, Gazipur, Gonda, Hardoi, KanpurDehat, Kanpur Nagar, Lakhimpur, Lalitpur, Mau, Siddartnagar, Unnao Lead: Muzzafar Nagar, Mathura, Moradabad, Allahabad, Bhadohi, Ghaziabad, Jaunpur, Kanpur, Raebareli, Sonbhadra
Cadmium: Varanasi city, Unnao
Chromium : Kashi Vidyapeeth, Varanasi, Kanpur, Unnao
27 Uttarakhand Dehradun, Haridwar, Udhamsinghnagar
28 West Bengal Bankura, Birbhum, Dakshindinajpur, Malda, Purulia, Uttardinajpur, South 24 Praganas
Bankura, Bardhaman Bardhaman, Hooghly, Howrah, Malda, Murshidabad, Nadia, N-24 Parganas, S- 24 Parganas Bankura, Bardhaman, Birbhum, Dakhindinajpur, E. Midnapur, Howrah, Hugli, Jalpaiguri, Kolkatta, Murshidabad, N-24 Parganas, Nadia, S-24 Parganas, Uttardinajpur, West Midnapur Lead: Malda, Murshidabad, Nadia, N-24 Pargana, S-24 Pragana, Kolkata
Cadmium: N-24 Praganas, S-24 Prganas
Chromium: N-24 Praganas, Murshidabad
29 Andaman& Nicobar Andaman

Annexure-lll
Annexure referred in reply to Lok Sabha Unstarred Question No. 402 to be answered on 25.02.2016 regarding "Contamination of Groundwater"
Years wise Status of Ground Water quality affected districts (2012-13 to 2015-16)

S.N.	States	Arsenic(>0.05 mg/l)				Fluoride (>1.5 mg/l)				Nitrate (>45 mg/l)				Iron			
		2012-13	2013-14	2014-15	2015-16	2012-13	2013-14	2014-15	2015-16	2012-13	2013-14	2014-15	2015-16	2012-13	2013-14	2014-15	2015-16
1	Andhra Pradesh	0	0	0	0	11	11	11	11	13	13	13	13	7	7	7	7
2	Telangana	0	0	0	0	9	9	9	9	10	10	10	10	8	8	8	8
3	Assam	18	18	19	19	6	6	6	6	0	0	0	0	18	18	18	18
4	Bihar	15	15	15	15	12	12	11	13	10	10	10	10	19	19	19	19
5	Chhattisgarh	1	1	1	1	13	13	13	13	12	12	12	12	4	4	4	4
6	Delhi	0	0	0	0	7	7	7	7	8	8	8	8	0	0	0	0
7	Goa	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
8	Gujarat	0	0	0	0	19	19	19	19	22	22	22	22	6	6	6	6
9	Haryana	13	13	13	13	18	18	18	20	17	17	17	19	17	17	17	17
10	Himachal Pradesh	0	0	0	0	0	0	0	0	6	6	6	6	0	0	0	0
11	Jammu & Kashmir	0	0	0	0	2	2	1	1	4	4	4	4	6	6	6	6
12	Jharkhand	1	1	1	1	7	7	12	12	11	11	11	11	6	6	6	6
13	Karnataka	2	2	2	2	21	21	21	29	22	22	22	22	22	22	22	22
14	Kerala	0	0	0	0	5	5	5	5	11	11	11	11	15	15	15	15
15	Madhya Pradesh	0	0	0	0	32	32	32	39	50	50	50	50	42	42	42	42
16	Maharashtra	0	0	0	0	13	13	13	17	20	20	20	30	30	30	30	20
17	Manipur	2	2	2	2	0	0	0	0	0	0	0	0	2	2	2	2
18	Meghalaya	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3
19	Orissa	0	0	0	0	15	15	18	25	28	28	28	28	27	27	27	21
20	Punjab	6	6	6	6	16	16	16	20	20	20	20	20	10	10	10	9
21	Rajasthan	0	0	0	0	30	30	30	33	33	33	33	33	33	33	33	33
22	Tamil Nadu	0	0	0	0	18	18	18	18	27	27	27	27	2	2	2	2
23	Tripura	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
24	Uttar Pradesh	20	20	20	20	13	13	13	13	46	46	46	46	15	15	15	15
25	Uttarakhand	0	0	0	0	0	0	0	0	3	3	3	3	0	0	0	0
26	West Bengal	8	8	8	8	9	9	7	7	2	2	2	2	15	15	15	15
27	Andaman Nicobar	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	Total number of districts	86	86	87	87	276	276	280	317	387	387	387	387	297	297	297	297